

Name.....Class..... AdmNo.....

451/1

COMPUTER STUDIES

PAPER 1

(THEORY)

END OF TERM 2 FORM 4

TIME: 2 ½ HRS

## QUESTION PAPER

### Instructions to candidates

1. This paper consists of TWO sections; A and B
2. Answer all questions in sections A.
3. Answer question 16 and any other THREE questions from section B.

### FOR EXAMINERS USE ONLY

SECTION	QUESTION	
A	1 – 15	
B	16	
	17	
	18	
	19	
	20	
TOTAL MARKS		

**SECTION(40MKS)**

**Answer all the questions**

1. Mr. Ombati computer technician in one of the schools used speech method to store students oral answers to an exam into a computer

a) What is a speech input? (1 mk)

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b) State one advantage and one disadvantage of using this kind of input. (2mks)

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2. Last year 2020 when corona virus was declared a pandemic internationally most companies allowed employees to telework or work at home and communicate with the office using the Internet. List the hardware, software and services required to access and use the Internet.

(3mks)

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3. Ventilation is an important practice in the computer lab because it enhances proper circulation of air. Outline **three** ways in which air is regulated in the computer room. (3mks )

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4. Kiambururu High School intends to purchase new computer to be used by students in the e-learning room for accessing digital learning resources and personal research. Advise the school on **three** computer hardware system specification features to consider as a measure of enhancing performance of the computers. (3mk)

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5. (a) Define the term artificial intelligence (1mk)

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(b) State any two advantages of the artificial intelligence. (2 mks)

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6. a). Explain the following features as used in word processing.  
i). Word wrap (1mk)

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ii). Thesaurus (1mk)

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7. Name the two types of desktop publishing software. (2mks)

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8. Distinguish between tracking and kerning as used in DTP. (2mks)

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9. State the importance of the following terminologies as used in database. (1 marks)

(i) Enforcing Referential integrity

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(ii) Validation rule

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10. Mention **two** ICT jobs that a college graduate can get in the video rental shop with regard to records management. (1mk)

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11. List **THREE** things which accompany newly purchased software. (3mks)

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12. (a) Give two application areas of each of the following scanning devices.

(i) Optical mark reader

(2mks)

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(ii) Magnetic stripe recognition .card

(2 mks)

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13. Describe **THREE** ways in which computers are used as industrial systems. (3mks)

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14. a)The manager of a company wants to improve the security of the computer network. She has decided to use authentication techniques so that employees can identify themselves to the system. Name **two** authentication techniques and describe how each technique would help keep the data more secure. (3mks)

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15. The first column in the table below contains the formula stored in cell C10 of a spreadsheet. Enter the formulae as they would appear when copied to cell F15 of the same spreadsheet. (3mks)

FORMULA IN C10	FORMULA IN F15
=A5*B5	
=A\$5	
=4*B\$6	

ii) What are the differences between Token ring topology and Ethernet topology? (1mks)

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(ii) Atieno was very happy when she bought a safaricom 2G modem for she was able to easily connect her computer to the internet. After six months she noticed it was taking her too long to connect to the internet .State two possible causes of the problem.

(2mks)

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(d) Give three advantages of fibre optic cable. (3mks)

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(e) List three benefits of wireless communication over physical transmission media.(3mks)

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18. (a) State three reasons for use of binary digits in computer system. (3mks)

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(b) Convert  $39.75_{10}$  to binary. (4mks)

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(c) Using eight bits and two complement, subtract  $78_{10}$  from  $17_{10}$ . Give your answer in decimal notations. (6 marks)

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19. a). List **TWO** characteristics of good information. (2mks)

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b). (i). What is a database management system? (1mk)

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ii). State and explain **THREE** database models. (3mks)

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c). Describe the following types of files.

i). Master file. (2mks)

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ii). Backup file. (2mks)

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iii). Transaction file. (2mks)

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d). Explain the file organization methods given below.

i). Serial. (1mk)

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ii). Indexed sequential. (1mk)

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iii). Random. (1mk)

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20. (a)(i) State any THREE factors you would consider before installing an operating system. (3mks)

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(ii) Distinguish between *software installation* and *software configuration* in relation to operating system (2mks)

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(b)(i) With reference to an operating system ,differentiate between formatting and partitioning. (2mks)

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(ii) Explain any TWO types of user interface. (3mk)

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(c) A systems analyst is responsible for the introduction of a new computerized system after the software has been written and tested, and its hardware purchased. Describe **ONE** method of introducing this new computerized system. (2mks)

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(b) File conversion, in system development, refers to modifying or changing the format of files when a new system is introduced e.g. from manual to computerized. State **THREE** factors considered before the file conversion process. (3mks)

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